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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,005	09/27/2000	Matt Andrew Palmgren	109.0002	8086

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DURHAM, NC 27713-7736

EXAMINER

WEISBERGER, RICHARD C

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/671,005

Applicant(s)

PALMGREN ET AL.

Examiner

Richard C Weisberger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-11 and 30-38 is/are allowed.
- 6) ☒ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-39 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/02/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Items 4-6 of the IDS of Nov 02, 2004 are not in the file. If the applicant wishes to have these documents considered, resubmission is required.

### ***Election/Restrictions***

The traversal is on the ground(s) that (1) the search for the claims of group II would impose no serious additional burden to the search required for group I, (2) Group I and II are not mutually exclusive, and (3) groups I and II are directed to the same US Patent classification. These arguments are not persuasive. Arguments (1) and (3) assume that primary search for the claimed invention is within the US Patent database. The subject matter of the invention is scantily represented within the database. Accordingly, the major search for the subject matter is within the universe of non patent literature, namely academic journals. As for argument (3), claims 12 and 17 recite limitations not common to claim 1, and claim 1 recites limitations not found in claim 12 and 17. For example, claim 12, determines a set of mortgage origination data to be analyzed and incorporates a proportional hazards model and a hat function model to compute the indicator of risk for said data. Claim 1 analyzes mortgage loan data with a proportional hazards model to take into consideration not only occurrence of an event relevant to the loan, but also the time to the event. Moreover, the output of claim 1 and 12 and claim 17 appear to be different. In claim 1 the output is a default probability, while in claim 12

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the output is a mortgage report (see, claim 13). Alternatively, Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants and if it is at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as generating a set of probabilities, while the invention of group II has separate utility such as generating mortgage reports. See MPEP § 806.05(d).

### **Request for Information**

In the previous office action, the applicant and the assignee of this application were asked to pursuant to 37 CFR 1.105 to provide the relevant information that the examiner determined to be reasonably necessary to the examination of this application. The examiner requested publications by the applicant which discussed the claims invention, notwithstanding their publication dates. As the applicant is aware non-patent publications reference the works of others. Thus, while a publication may not qualify as prior art, it is often the best resource for identifying the prior art through a back propagating process.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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2. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For clarification, "the data" should be amended to "the mortgage loan data".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruthless Prepayment? Evidence from Multifamily Mortgages, in view of A Proportional Hazards Model of Commercial Mortgage Defaults with Originator Bias.

The following limitations are discussed in the primary reference; receiving mortgage loan data for an a loan, said mortgage data including data regarding

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occurrence of an event relevant to the loan and also time to the event; analyzing the received data utilizing a proportional hazards as a set forth in claim 3, to take into consideration not only the occurrence of an event relevant to the loan, but also the time to the event; computing the indication of risk for the loan using a computer with memory, transmitting the computed default probability for the loan, wherein the hazard rate is represented by a binary variable which indicates whether default was observed or not, and a time observed variable (See, pages 4-5).

The primary reference fails to teach of using the proportional hazard model to estimate the risk of default. The examiner takes official notice that risk of default and risk of prepayment (the subject of interest of the primary reference) are art recognized variables in the mortgage industry and that it would have been obvious for one skilled in the art at the time to have used the model of Follain et al. to model the risk of default. In the alternative the secondary reference teaches that "a number of previous studies have used proportional hazards models to investigate the determinants of commercial mortgage defaults" (page, 7 "The modeling framework"). The prior art journal articles cited in the secondary reference were not available at the time of this office action, this secondary reference is only relied upon for this citation.

The collective references fail to teach the examination of "loan applications" and transmitting a report to a potential loan originator. The examiner takes official notice that the scientific method comprises the following steps:

1. Observe some aspect of the universe.
2. Invent a tentative explanation, called a hypothesis, that is consistent with what you have observed.

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3. Use the hypothesis to make predictions.

With this in mind, it would have been obvious for one skilled in the art at the time to have used the proportional hazards model hypothesis of the primary and secondary references to make predications of the risk of default of future loans (i.e. applying the model to loan applications). Further, it would have been obvious for one skilled in the art to have offered this model to a loan originator or in the alternative to have transmitted the report to the a loan originator. The motivation being to reduce the risk of loss to the originator. The risk of loss is an art recognized variable in the art to loan issuance.


Claims 8-9 are allowable over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard C Weisberger whose telephone number is 571 272 6753. The examiner can normally be reached during the hours of Maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vince Millin can be reached on 571 272 6747. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Richard C. Weisberger  
Primary Examiner  
Art Unit 3624